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The Royal Society of London

PHILOSOPHICAL TRANSACTIONS

Volume 39
1735-1736

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1963

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PHILOSOPHICAL TRANSACTIONS.

GIVING SOME

ACCOUNT

OF THE

Present Undertakings, Studies, and Labours,

OF THE

INGENIOUS,

IN MANY

Considerable Parts of the WORLD.

VOL. XXXIX. For the Years 1735, 1736.

L O N D O N:

Printed for T. WOODWARD, at the *Half-Moon*, between
the *Two Temple-Gates* in *Fleetstreet*; and C. DAVIS
the Corner of *Pater-noster-row*, next *Warwick-lane*;
PRINTERS to the ROYAL SOCIETY.

M.DCC.XXXVIII.

T O
HERMAN BOERHAAVE,
A. L. M. PHIL OS. AND M. D.
PROFESSOR of PHYSICK
IN THE
UNIVERSITY of *LEYDEN*,
PRESIDENT OF THE COLLEGE OF CHIRURGIONS
IN THAT CITY.
FELLOW of *the* ROYAL SOCIETY
of *LONDON*,
AND
MEMBER of *the* ROYAL ACADEMY of
SCIENCES at *PARIS*, &c.

Honoured S I R,

AN Address to You in *English* needs no
Apology, since it is well known to
all, who have the Happiness of an intimate
Acquaintance with You, that not only the
* *English*,

DEDICATION.

English, but likewise all the other *European* Languages, in which any Pieces valuable for the Improvement of Learning have been published, are alike familiar to You.

The Honour You have done me in communicating to the ROYAL SOCIETY through my Hands those curious and elaborate *Experiments* you made upon *Quicksilver*, cannot be acknowledged by me in a fitter Manner, than by dedicating to You this Thirty-ninth Volume of *Philosophical Transactions*: which likewise gives me an Opportunity of publicly thanking You for the many Marks of Friendship and Esteem I have received at your Hands, for the Civilities You have always shewn my Friends, and the Honour You have done me in continuing an Epistolatory Correspondence ever since I left *Leyden*.

I reckon it a great Happiness, the having been near five Years one of your Pupils, during which Time You were so kind as to
direct

DEDICATION.

direct and advise me in all my Studies; and I gratefully own, that it was You who first led me into those Philosophical Researches, which have since procured me the particular Favour of our Worthy *President*, and the great Honour conferred upon me by *Him*, the *Council* and *Fellows* of the ROYAL SOCIETY, in chusing me One of their *Secretaries*.

Were these Volumes published in the Name of the ROYAL SOCIETY, they would not require the Patronage of any Particular Person; a Sanction from that Illustrious Body, which hath all along so justly been in the highest Esteem among the Learned, would be a sufficient Protection for the Publisher: But, as they contain only some of the Papers which have been read at their Assemblies, the publication of which is left to the Discretion of the Secretaries, the Editor becomes answerable for what he communicates to the Publick; therefore, as to the Share I have had in collecting and publishing these Memoirs, I beg Leave to apply to You for Protection, who are a
thorough

DEDICATION.

thorough Judge of their Usefulness, and who have, by your universal Knowledge, deservedly obtain'd a Place in the first Rank of Learned Men.

I hope You will accept this as a Token of the most sincere Respect and highest Regard, which I shall ever retain for You, being,

SIR,

LONDON,
Aug. 1. 1738.

Your most obliged,

and most devoted,

humble Servant,

CROMWELL MORTIMER, M. D.
Secretary to the ROYAL SOCIETY, and
Fellow of the ROYAL COLLEGE of
PHYSICIANS, LONDON.

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For the Months of *January, Febr. and March, 1735.*

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- I. *A Catalogue of the FIFTY PLANTS, from Chelsea-Garden, presented to the Royal Society by the Company of Apothecaries, for the Year 1733. pursuant to the Direction of Sir Hans Sloane, Bart. Med. Reg. Præf. Col. Reg. Med. & Soc. Reg. by Isaac Rand, Apothecary. F. R. S. Hort. Chel. Præf. ac Prælec. Botan.*
- II. *A Catalogue of the Eclipses of Jupiter's Satellites, for the Year 1736. computed to the Meridian of the Royal Observatory at Greenwich, by James Hodgson, F. R. S. Master of the Royal Mathematical School in Christ's-Hospital, London.*
- III. *The apparent Times of such of the Immersions and Emersions of Jupiter's Satellites, as are visible at London, in the Year 1736: together with their Configurations at those Times, represented in a Plate, by the same.*
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- IV. *An Account of some Observations of the Eclipses of the First Satellite of Jupiter, compared with the Tables, by the same.*
- V. *Experiments and Observations upon the Light that is produced by communicating Electrical Attraction to animal or inanimate Bodies, together with some of its most surprising Effects; communicated in a Letter from Mr. Stephen Gray, F. R. S. to Cromwell Mortimer, M. D. R. S. Secr.*
- VI. *A general Method of describing Curves, by the Intersection of Right-Lines; moving about Points in a given Plane. In a Letter to Dr. Hoadly, by the Rev. Mr. Braikenridge.*
- VII. *Extract of a Letter from M. Geoffroy, Chemist, Member of the Royal Academy of Sciences at Paris, and F. R. S. to Sir Hans Sloane, Bart. President of the Royal Society; concerning Mr. Seignette's SAL POLYCHRESTUS RUPELLENSIS, and some other Chemical Salts. By T. S. M. D.*

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- II. *A Calculation of the Velocity of the Air moved by the new-invented Centrifugal Bellows of 7 Feet in Diameter, and 1 Foot thick within, which a Man can keep in Motion with very little Labour, at the Rate of two Revolutions in one Second. By the same.*
- III. *The Uses of the foregoing Machine. Communicated in a Letter to Cromwell Mortimer, M. D. R. S. Secr. Feb. 23, 1736¹. from the same.*
- IV. *The Case of a Cataleptick Woman. Communicated to the Royal Society by Richard Reynell, Apothecary, London.*
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- V. *Some Thoughts on the Operation of the Fistula lacrymalis.* By Francis-Joseph Hunauld, M. D. F. R. S. Regius Professor of Anatomy and Surgery, and Member of the Royal Academy of Sciences at Paris. Communicated to the Royal Society in a Letter to Tho. Stack, M. D.
- VI. *Concerning the Cause of the General Trade-Winds.* By Geo. Hadley, Esq; F. R. S.
- VII. *An Account of the several Earthquakes which have happen'd in New-England, since the first Settlement of the English in that Country, especially of the last, which happen'd on Octob. 29, 1727.* Communicated to the Royal Society by Paul Dudley, Esq; F. R. S. in a Letter to the Secretary.
- VIII. *An Account of an extraordinary Effect of Lightning in communicating Magnetism.* Communicated by Pierce Dod, M. D. F. R. S. from Dr. Cookson of Wakefield in Yorkshire.
- IX. *A further Account of the extraordinary Effects of the same Lightning at Wakefield.* By Dr. Cookson. Communicated by the same.

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- II. *Of the Figure of the Earth, and the Variation of Gravity on the Surface. By Mr. James Stirling, F. R. S.*
- III. *Filtri Lapidis Mexicani Examinatio et Comparatio cum aliis lapidibus facta, qua demonstratur, nullum vel exiguum ejus usum esse in depuranda aqua per illum colata. Auctore Abrahamo Vatero, M. D. et P. P. Societ. Imper. Nat. Cur. et Reg. Britann. et Boruss. Socio.*

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- II. *Remarks upon an Antient Date, found at Widgel-Hall near Buntingford in Hertfordshire, on an Oaken Plank ; now preserved in the Museum of the Royal Society, London. By John Ward, Rhet. Pr. Gresh. and F. R. S.*
- III. *Some Considerations on the Antiquity and Use of the Indian Characters or Figures. By Mr. John Cope.*
- IV. *Remarks upon an Antient Date, over a Gate-way, near the Cathedral, at Worcester. By John Ward, Rhet. Prof. Gresh. and F. R. S.*

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- V. *A Letter from Mr. Colin Mac Laurin, Math. Prof. Edinburg. F. R. S. to John Machin, Astr. Prof. Gresh. & Secr. R. S. concerning the Description of Curve Lines. Communicated to the Royal Society on December 21, 1732.*
- VI. *A Letter from Stephen Gray, F. R. S. to Dr. Mortimer, Secr. R. S. containing some Experiments relating to Electricity.*
- VII. *An Account of the Births and Burials with the Number of the Inhabitants at Stoke-Damerell in the County of Devon. Communicated by the Reverend Mr. Barrow.*
- VIII. *An Extraordinary Case of the Foramen Ovale of the Heart being found open in an Adult. Communicated by Claudius Amyand, Esq; Serjeant Surgeon to his Majesty, and F. R. S.*
-

N. B. The Papers hinted at by Mr. Mac Laurin p. 143. are printed in a Treatise entituled, *Exercitatio Geometrica de Descriptione Curvarum*: Authore *Gulielmo Braikenridge*. Londini, 1733. 4to.

L O N D O N :

Printed by W. INNYS and R. MANBY, Printers to the *Royal Society*, at the West End of *St. Paul's*.

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- I. *A Catalogue of the Fifty Plants from Chelsea Garden, presented to the Royal Society by the Company of Apothecaries, for the Year 1734, pursuant to the Direction of Sir Hans Sloane, Bart. Med. Reg. Præs. Col. Reg. Med. & Soc. Reg. By Isaac Rand, Apothecary, F. R. S. Hort. Chel. Præs. ac Prælec. Botan.*
- II. *The apparent Times of the Immersions and Emersions of Jupiter's Satellites, which will happen in the Year 1737. Computed to the Meridian of the Royal Observatory at Greenwich, by James Hodgson, F. R. S. and Master of the Royal Mathematical School in Christ-Hospital, London.*
- III. *The apparent Times of such of the Immersions and Emersions of Jupiter's Satellites, as are visible at London in the Year 1737. By James Hodgson, F. R. S.*
- IV. *A Proposition relating to the Combination of Transparent Lens's with Reflecting Planes. By J. Hadley, Esq; V. Pr. R. S. Communicated to the Royal Society, January 9, 1734.*
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- V. *An Account of a large Bony Substance found in the Womb, which was shewn to the Royal Society, May the 17th, 1733, by Edward Hody, M. D. F. R. S.*
- VI. *Some Experiments concerning the Impregnation of the Seeds of Plants, by James Logan, Esq; Communicated in a Letter from him to Mr. Peter Collinson, F. R. S.*
- VII. *Some Observations of Eclipses of Jupiter's Satellites, made by Geo. Lynn, Esq; at Southwick, near Oundle in Northamptonshire; Communicated in a Letter to James Jurin, M. D. F. R. S. and Fellow of the Royal College of Physicians, London.*
- VIII. *A Letter from Mr. Tho. Jones to James Jurin, M. D. F. R. S. and Fellow of the Royal College of Physicians, concerning the High Tide in the River Thames, on Feb. 16, 1735-6.*
- IX. *Affectus Cutaneus singularis, ab Abrahamo Vaterno, Anatomes & Botanices in Academia Wittembergenfi Professore publico, R. S. S. Regali Societati communicatus.*
- X. *Experiments concerning the Vibrations of Pendulums. By the late W. Derham, D. D. F. R. S. and Canon of Windsor.*
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- II. *Mr. Stephen Gray, F. R. S. his last Letter to Granville Wheler, Esq; F. R. S. concerning the Revolutions which small pendulous Bodies will, by Electricity, make round larger ones from West to East as the Planets do round the Sun.*
- III. *Extraët of a Letter from Mr. Jos. Nic. De l'Isle, F. R. S. to John Machin, Secr. R. S. & Pr. Astr. Gresh. Dated Petersburg, 1st Feb. 1733, containing several Literary Communications concerning the Construction of a Quick-silver Thermometer, and his Observations on the Eclipses of Jupiter's Satellites, Annis 1731 and 1732. Translated from the French by Phil. Henry Zollman, F. R. S.*
- IV. *Experimenta de Perforatione Thoracis, ejusque in Respiratione Effectibus, facta per Guilielmum Houstonum, M. D. & quondam R. S. S. cum Lugduni Batavorum commoraretur. Ann. 1728 & 1729. Regali Societati communicata per Philippum Millerum, R. S. S.*
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- II. *An Account of the Standard Measures preserved in the Capitol at Rome.* By Martin Folkes, Esq; V. P. R. S.
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- V. *An Experiment to shew that some Damps in Mines may be occasioned only by the burning of Candles under Ground, without the Addition of any noxious Vapour, even when the Bottom of the Pit has a Communication with the outward Air, unless the outward Air be forcibly driven in at the said Communication or Pipe.* By the Rev^d. J. T. Desaguliers, L L D. F. R. S.
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- VIII. *An Account of the Bones of Animals being changed to a Red Colour by Aliment only. By John Belchier, Surgeon, F. R. S.*
- IX. *An Observation of a white Liquor resembling Milk, which appeared instead of Serum separated from the Blood after it had stood some time. By Alexander Stuart, M. D. Physician in Ordinary to her Majesty, F. R. S. and of the College of Physicians, London.*
- X. *An Account of what was observed upon opening the Corpse of a Person who had taken several Ounces of crude Mercury internally; and of a Plumb-Stone lodg'd in the Coats of the Rectum. Communicated in a Letter from the late Dr. Madden, Physician at Dublin, to Sir Hans Sloane, Bart. Pr. R. S.*
- XI. *Observatio Eclipsæ Telluris Romæ habita in Ædibus Eminentissimi Cardinalis DE-VIA, v. Non. i. e. d. 3. Maii N. S. Apr. 22. V. S. MDCCXXXIV. per Didacum de Revillas Abbat. Hieronym. R. S. S. & Andreæ Celsium, R. S. S. Astron. Profess. Upsal. & R. S. Suec. Secr.*

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- III. *The Immersions and Emersions of the four Satellites of Jupiter, for the Year 1738. computed to the Meridian of the Royal Observatory at Greenwich, by James Hodgson, F. R. S. and Master of the Royal Mathematical School at Christ's Hospital, London.*
- IV. *The apparent Times of such of the Immersions and Emersions of Jupiter's Satellites, as are visible at London, in the Year 1738. By the Same.*
- V. *Part of a Letter from William Burton, M. D. at Windsor, to C. Mortimer, R. S. Secr. concerning the Viper-catchers, and their Remedy for the Bite of a Viper.*
- VI. *A Narration of the Experiments made June 1, 1734. before several Members of the Royal Society, and others, on a Man, who suffer'd himself to*

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- VII. *A brief Account by Mr. John Eames, F. R. S. of a Work entitled, The Method of Fluxions and Infinite Series, with its Application to the Geometry of Curve Lines, by the Inventor Sir ISAAC NEWTON, Kt. &c. Translated from the Author's Latin Original not yet made publick. To which is subjoin'd a perpetual Comment upon the whole, &c. by John Colson, M. A. and F. R. S.*
- VIII. *Of an Inguinal Rupture, with a Pin in the Appendix Coeci, incruſted with Stone; and ſome Obſervations on Wounds in the Guts; by Claudius Amyand, Eſq; Serjeant Surgeon to His MAJESTY, and F. R. S.*
- IX. HERMANNI BOERHAAVE, *A. L. M. Philoſoph. & Med. Doct. Medicinæ in Univerſitate Leidenſi Profeſſ. Colleg. Chirurgic. Præſ. Reg. Soc. Lond. necnon Reg. Scient. Acad. Pariſienſ. Soc. de MERCURIO Experimenta. Pars II.*
- X. *ECLIPSIS LUNÆ partialis die ſecundo Octobris, Styl. nov. Anno MDCCXXXV. Vitembergæ Saxonum obſervata à Jo. Frider. Weidlero, R. S. S.*

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PHILOSOPHICAL TRANSACTIONS

For the Months of *November* and *December*, 1736.

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- II. HERMANNI BOERHAAVE, *A. L. M. Philosoph. & Med. Doct. Medicinæ in Universitate Leidenf. Profess. Colleg. Chirurgic. Præs. Reg. Soc. Lond. necnon Reg. Scient. Acad. Parisiens. Socii, de MERCURIO Experimenta.*
- III. *A Letter to the Rev. John Theoph. Desaguliers, LL. D. F. R. S. from Mr. Martin Triewald, F. R. S. Captain of Mechanicks, and Military Architect to his Swedish MAJESTY, concerning an Improvement of the Diving Bell.*
- IV. *A Letter from Samuel Dale, M. L. to Sir Hans Sloane, Bart. President of the Royal Society, containing the Descriptions of the Moose-Deer of New-England, and a sort of Stag in Virginia; with some Remarks relating to Mr. Ray's Description of the flying Squirrel of America.*
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- VI. *An Explication of the Experiment made in May 1735, as a farther Confirmation of what was said in a Paper given in January 30, 1734-5. to account for the Appearance of the horizontal Moon seeming larger than when higher. By the Same.*
- VII. *A Letter from Joseph Atwell, D. D. F. R. S. and Principal of Exeter College, Oxford, to Dr. Mortimer, R. S. Secr. containing some Observations, on a Man and Woman bit by Vipers.*
- VIII. *An Account of some Electrical Experiments intended to be communicated to the Royal Society by Mr. Stephen Gray, F. R. S. taken from his Mouth by Cromwell Mortimer, M. D. R. S. Secr. on Feb. 14, 1735-6. being the Day before he died.*
- IX. *Some Thoughts concerning the Sun and Moon, when near the Horizon appearing larger, than when nearer the Zenith; being Part of a Letter from James Logan, Esq; to Sir Hans Sloane, Bart. President of the Royal Society, &c.*
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